

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
FILTER AND ORIFICE, ITEM 126 ----- SV772158-3 (1)	2/1RB	126FM01 Restricted flow, no flow.  Contamination clogs upstream orifice filter.	END ITEM: Blockage of vent gas flow path through orifice.  GFE INTERFACE: Unable to provide ventilation bypass flow to the CO2 transducer. CO2 transducer (Item 122) unable to detect level of CO2.  MISSION: None for single failure. Not detectable during EVA.  CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of CCC.  TIME TO EFFECT /ACTIONS: Days.  TIME AVAILABLE: Minutes.  TIME REQUIRED: Seconds.  REDUNDANCY SCREENS: A-PASS	A. Design - The filter is constructed from an AlS1 316 stainless steel screen tack welded and bonded to an AlS1 304 orifice housing. This stainless steel construction prevents potential corrosion particles. The orifice is 0.022 + 0.001 inch diameter and is protected by a 440 micron filter with 0.0176 opening.  B. Test - Component Acceptance Test - No Acceptance Test performed.  PDA Test - A system performance test per SEMU-60-010 is performed on the CO2 sensor by comparing to a known CO2 partial pressure over the performance range of the sensor. If the filter were clogged, no CO2 would be allowed to flow by the sensor to produce a reading.  Certification Test - Certified for a useful life of 15 years (ref. SEMU-46-004).  C. Inspection - Cleanliness level of the item 126, test gases and rigs is maintained and inspected to HS3150 EM50A during testing of the PLSS to prevent contamination clogging.  D. Failure History - None.  E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Item 122 CO2 Sensor Functional Verification. None for EET processing.  F. Operational Use - Crew Response - Pre EVA: No response, single failure undetectable by crew or ground. EVA: No response, single failure undetectable by crew or ground. Training - Crewmen are trained to recognize the symptoms of high CO2. Operational Considerations - Flight rules define go/no go criteria related to EMU ventilation and CO2 control. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

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		126FM01		
			B-FAIL C-PASS	

EXTRAVEHICULAR MOBILITY UNIT  
SYSTEMS SAFETY REVIEW PANEL REVIEW

FOR THE

I-126 FILTER AND ORIFICE

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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